MODULE 1

IDENTIFYING THE CHALLENGES: ENVIRONMENTAL IMPACT OF TOURIST FACILITY DESIGN

IDENTIFYING THE CHALLENGES: ENVIRONMENTAL IMPACT OF TOURIST FACILITY DESIGN
"The Good; The Bad; and The Ugly"

OBJECTIVES:

- To outline the new, proposed Central Development Process as opposed to the current conventional approach of the sustainable planning process.
- To give an overview of the issues related to tourist facility design.
- To illustrate high-impact of tourist facilities, as well as low-impact facilities.

OVERVIEW:

- Detailed review of the central framework of the Manual: the step-by-step process of Project and facility design and development
- The Participants in the process: their roles and responsibilities
- Introduction to issues to be addressed in Manual

CENTRAL FRAMEWORK: The Step By-Step Process of Project And Facility Design And Development.

> "Sustainable design is not a reworking of conventional approaches and technologies, but a fundamental change in thinking and in ways of operating-you can't put spots on an elephant and call it a cheetah."
> - Carol Franklin, Andropogon Associates Limited.

There is a unique opportunity to help shape a new, environmentally-sound and sustainable way of designing and developing tourism facilities in the Wider Caribbean Region. Irrespictive of the specific role one plays as regulator, hotel developer, resort manager, architect, engineer or planner we can contribute to the emergence of "greener" tourism development. By doing so, we will help to ensure that the region's precious natural and cultural resources are protected as tourism continues to contribute to the region's economic growth and development.

"Greener Tourism"
...sustainable developments will only happen if there is a fundamental change in the process of project/facility design...

The realization of "greener tourism" developments throughout the Caribbean will only happen if there is a fundamental change in the process of project/facility design and development. The conventional, narrowly focused process that has produced the current stock of tourism developments in the Caribbean - most of which are far less than sustainable - must give way to a more holistic, environmentally-focused process.

A new, proposed Central Development Process forms the central framework for the organization of this module. The sections which follow highlight and contrast the conventional process with the proposed, more holistic, environmentally focused process.

Table 1 serves as an overview chart for the key components in the development process and provides general information of how the Manual is based on the proposed, new development process.

While this Central Development Process proposal offers a framework for the entire project development process, from project pre-planning and site selection through facility post-occupancy, more detailed process guidelines and checklists are proposed in individual Modules. Detailed Site Selection Process Guidelines are offered in Module 4; Facility Design Process Guidelines and a Facility Design Checklist are presented in Module 6; and a sustainable revision of the standard operations and management (O&M) process renamed Operations, Management and Monitoring (OM&M) is detailed in Module 7.

The Current Conventional Process

When considered in detail, no two tourism project/facility design and development histories are identical. The influence of varied sites, different organizational, financial, and other conditions, lead to procedural variations from one project to the next.

In broad terms, however, the process of design and development of the majority of tourism facilities in the Wider Caribbean Region share one or more of the following characteristics:

(a) Site selection is made without major consideration of the environmental and cultural sustainability of the site. A carrying capacity analysis of the site that reconciles the desired number of guest/visitor accommodations (based on programme development and profit projections), with the ability of the site's natural environmental and cultural systems to safely handle the visitor and the use load is rarely, if ever, part of the selection process.

(b) The developer involves designing, engineering, construction, and management professionals in a linear fashion, with the retained architect making most of the design decisions and with only limited input from the "down-stream" professionals, until their input is needed to "make it work".

(c) Collection and analysis of environmental information and data is completed mostly to the extent that an Environmental Assessment or Environmental Impact Report is required by the local government or controlling organization as a quid-pro-quo for final development and building approvals.

(D) The siting of facilities vis-a-vis, site amenities and features (beaches, scenic outlooks, etc.) is usually made based on the goal of making the amenity as accessible to the greatest number of guests as possible, as opposed to considering the long-term preservation of the amenity.

The Central Development Process establishes a broad framework for the entire development process.

While there are certainly tourism projects that represent the exception to this generalization, the design and development projects in the region share these characteristics. The design and development process relegates environmental and sustainable issues to a secondary or tertiary position, if considered at all. This has resulted in the development of a "stock" of tourism facilities which negatively impact the natural and cultural environments in which they are built.

Modification of the Conventional Process for a Sustainable Development Process

How can the tourism facility design and development process be altered such that it produces environmentally and culturally sustainable projects as well as projects that are financially sustainable?

The Central Development Process

The proposed Central Development Process offers such an alternative. It offers a framework for the entire project development process - from project pre-planning and site selection through facility post-occupancy.

The process does not represent a radical change from the conventional process when considering major steps (project planning, site planning, design and construction, etc.). However, substantial differences lie in the required activities and inputs in each step.

An overview of the Central Development Process is presented below. It offers a broad framework for the entire development process, while detailed process guidelines and checklists are proposed in individual Course Modules. The detailed guidelines and checklists are referenced under the appropriate major process step.

1. Pre-Project Planning/Site Selection

- Complete Local Regulatory Assessment; This includes an assessment of Government Zoning, Land and Water Use Plans, Building Regulations, Flood Zones, etc.

- Compile Initial Site Resource Inventories and Complete Initial Site Sustainability Assessments for all potential sites. This includes financial, environmental, cultural, infrastructural, natural hazard considerations - using available data, carrying capacity analysis, rapid resource inventory methods, etc.

See detailed site selection process guidelines - Module 4

2. Site Planning

- Carry out a detailed local inventory of natural and cultural resources.

- Complete Preliminary Sustainable Development Master Plan

See Site Planning and Sustainable Development; Master Plan - Module 4

3. Infrastructure Planning and Design

- Complete Sustainable Infrastructure Plan. Integrate into preliminary Sustainable Development Master Plan to finalize Master Plan.

- Consider loads on energy, water, waste, transportation and communications systems.

See Module 5A

4. Building Design and Construction

See Facility Design Process Guidelines and Facility Design Checklist - Module 6

5. Post-occupancy Operations, Maintenance and Monitoring

- Create a management system by which a systematic approach to monitoring of resources such as energy and water, and production of waste can be undertaken, as well as setting targets and establishing an auditing process.

See a sustainable revision of the Standard Operations and Management (O&M) process-renamed Operations, Management and Monitor (OM&M) - Module 7.

Module 1- Table 1

Development Process - Key Components

PROJECT DEVELOPMENT PROCESS: Key Components	COASTAL REGULATORY SYSTEMS: Key Components	RELATED MODULE IN THE MANUAL						
		1	2	3	4	5	6	7
1. PRE-PROJECT/PROJECT PLANNING Financial feasibility Initial Local Resource Inventory Site Selection	Land-use and water use "Zone" plans	X	X	X	(X)			
2. SITE PLANNING Detailed Local Resource Inventory Environment Natural Resources Cultural Resources Historic Resources Potential Hazards	Coastal Area Management • Shoreline set-back • Erosion Control • Habitat Protection	X	X	X	(X)	X	X	
3. INFRASTRUCTURE PLANNING AND DESIGN Integrated Approach Sustainable Systems Energy Water Waste Transportation Communications Disaster Mitigation Historic Resources	Historic & Cultural Resources Protection • Emergency Management	X		X		(X)	X	
4. BUILDING DESIGN AND CONSTRUCTION Integrated "Whole Building" Approach	Emergency Management • Building Codes • Energy Codes • Insurance Requirements	X		X		X	(X)	
5. POST-OCCUPANCY Sustainability Monitoring "Informal Guidelines"		X		X		X	(X)	

Note: Bracket indicates lead module for corresponding component

THE PARTICIPANTS IN THE PROCESS

The roles and responsibilities of the participants/stakeholders in the process is extremely important. Close collaboration is also critical to ensure balance between the social, economic and environmental aspects of development.

Participants include:

1. The Developer/Owner (Financial Structures)

He is responsible for major decision-making on all aspects of the development, and should put in place a good framework within which the project can be successfully executed. It is his duty to ensure that the necessary legislative and regulatory requirements are met.

2. The Facility Development Support Professionals

The group of technocrats have major responsibility for the timely execution of the project. They will each bring their individual area of expertise to bear on the project, and must also work in concert to harmonize all aspects of work. Facility development professionals include:

- Architects
- Engineers/oceanographers
- Ecologists/Biologists
- Lawyers
- Facility Managers
- Regulators

3. The Community

Community involvement is key to all development projects, but the stakes are even greater with respect to tourism-related planning. Public participation is crucial to the development of a sustainable tourism sector, and this is governed by three main principles:

- Citizens as taxpayers are economic partners in tourism development and as such have a right to participate in the decision-making process.
- Investors in the tourism sector can avoid problems and mistakes that can be very costly to themselves and the industry if a proper programme of public collaboration and decision-making is not adhered to.
- There is a moral obligation to consult those who have traditionally utilized the resources available in the environment to be developed, and who may suffer the consequences of lack of access, resource deprivation or resource degradation.

Some specific benefits to a developer from engaging in the process of public consultation and public participation in decision-making are:

- Additional data on the physical and biological characteristics of the site, which may be critical in siting and design and may not have been detected by technical staff conducting inventories or surveys.
- The early identification of potential user conflicts which, if not properly addressed, can lead to hostility towards the development from the local population and which also can, in the long term, affect the viability of the project.

- Public consultation and participation in the early stages of the project can prevent the rise of negative perceptions which may be difficult to change once they take root. The spirit of cooperation must be fostered within the local community if a project is to succeed, recognising that it is the community that will be providing the various categories of employees at tourism establishments.

KEY ISSUES

The key issues to be considered in the process of project facility design and development are summarised below:

A. Disaster Mitigation

B. Historic Resource Preservation

C. Community/Cultural/Human Resources

D. Carrying Capacity
   - Introduction to Assessment Tools

E. Coastal Environmental Systems
   - Connectivity and Inter-dependency among habitats
   - Cumulative Impacts of Human Interventions

F. Coastal Regulatory Protection
   - Coastal Setback Requirements
   - Soil Erosion Control Measures and Regulations

G. Low-Impact Planning
   - Resource Inventory and Mapping f
   - GIS (Geographic Information System)
   - Site Selection
   - Sustainable Development Master Plan
   - Site Planning

H. Low-Impact Infrastructure
   - Integrated Systems Approach
   - Sustainable Systems Options

I. Low-Impact Building Design
   - Integrated Whole Building Design
   - Sustainable Systems Options

J. Monitoring Facility Sustainability
   - Training
   - Preventative Maintenance